

REMARKS

Claims 20-38 are now present in this application. Claims 20 and 36 are independent. Claims 20, 23, 25-34 and 36 have been amended. Claim 38 has been added.

Reconsideration of this application, as amended, is respectfully requested.

New Matter

In the attachment to the Advisory Action mailed March 8, 2002, the Examiner objected to the phrase "non-liquid" as raising issues of new matter.

By the present Amendment, Applicants have changed the phrase "non-liquid" to --shaped--. Support for the term "shaped" can be found in the originally filed specification on at least page 3, line 1 (substitute specification, paragraph 9, line 1).

Applicants respectfully submit that the term "shaped objects" does not raise issues of new matter. Accordingly, reconsideration and withdrawal of this objection are respectfully requested.

Rejection Under 35 U.S.C. § 112

Claims 20-37 stand rejected under 35 U.S.C. § 112, second paragraph. This rejection is respectfully traversed.

In paragraph 1 of the Continuation of the Advisory Action mailed March 8, 2002, the Examiner states that the amended claims overcome the rejections under 35 U.S.C § 112, second paragraph. Applicants thank the Examiner for the indication of overcoming this rejection.

Accordingly, reconsideration and withdrawal of this rejection are respectfully requested.

Rejections Under 35 U.S.C. §§ 102 and 103

Claims 20-24, 26, 27 and 36 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Balch. Claims 25, 28 and 30-35 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Balch in view of Lough et al. Claim 29 stands rejected under 35 U.S.C § 103(a) as being unpatentable over Balch in view of Lough et al. and further in view of Gavin et al. Claim 37 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Balch. These rejections are respectfully traversed.

In paragraph 2 of the Continuation to the Advisory Action mailed March 8, 2002, the Examiner acknowledges Applicants' arguments that the "objects which are contained in a liquid" clarifies that the objects are not liquid themselves. However, the Examiner advances the argument that the droplets of Balch contain non-liquid matter, i.e., captured probes encompassing nucleic acids, ligands, antibodies, antigens, proteins and chemical compounds (col. 8, lines 21-27 of Balch).

Amended independent claims 20 and 36 now recite the combination of method steps and structures which include "shaped objects which are contained in a liquid." Again, Applicants respectfully assert that the context of the claim indicates that the shaped objects are not liquids themselves.

Regarding the nucleic acids, ligands, antibodies, antigens, proteins and chemical compounds of Balch, Applicants note that numerous of these objects would be suspended in a single droplet dispensed from the inkjet.

Applicants' independent claims 20 and 36 recite combinations "wherein the shape and size of each of the outlets prevent passage of more than one of the shaped objects at a time."

Even if the acids, ligands, antibodies, antigens, proteins and chemical compounds suspended in the liquid of Balch are considered to be objects, the shape and size of the inkjets are not set such that each of the outlets prevent passage of more than one of the shaped objects at a time. There is simply no showing, or remote suggestion, in Balch to arrive at such a method or structure.

Lough et al. has been cited by the Examiner as a teaching reference. The Examiner asserts that Lough et al. teach fixing objects electrostatically to a support. The objects comprise beads. The Examiner asserts that it would have been obvious to one of ordinary skill in the art to have placed the beads of Lough et al. into the liquid of Balch.

Applicants respectfully maintain the position that one of ordinary skill in the art would not have made such a combination. If the micro-balls of Lough et al. were placed into the ink-jets of Balch, it is highly likely that an inoperable device would have resulted. Namely, the micro-balls would most likely block the ink-jets.

In the Continuation of the Advisory Action mailed March 8, 2002, the Examiner states that Applicants' arguments against the combination of Balch in view of Lough et al. are not persuasive. The Examiner notes that the claims do not recite any size limitations. Applicants argue that the claims do in fact recite a size limitation. Namely, the shape and size of each of the outlets is arranged to prevent passage of more than one of the shaped objects at a time.

There is no showing in Lough et al. to provide a bead having a size corresponding to the ink-jet of Balch, such that Balch's ink-jet would have prevented the passage of more than one of the beads of Lough et al. Furthermore, there is no motivation to one of ordinary skill in the art to modify the size of the ink-jet outlets of Balch, such that they are shaped and sized to prevent passage of more than one of the beads of Lough et al.

Gavin et al. has been cited as a teaching reference for covering fixed objects with a layer of gel. Gavin et al. does not address the deficiencies of Balch and Lough et al. regarding Applicants' independent claims 20 and 36.

For the reasons as stated above, reconsideration and withdrawal of these rejections are respectfully requested.

Added Claim 38

Added dependent claim 38 further limits the invention recited in independent claim 20. Claim 38 recites that the outlets are positioned adjacent to the support at a distance which is smaller than the size of the shaped object. It is respectfully submitted that none of the prior art of record shows, or suggests, such a combination of method steps.

CONCLUSION

All of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding rejections and that they be withdrawn.

It is believed that a full and complete response has been made to the Office Action, and as such, the present application is in condition for allowance.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Mr. Scott L. Lowe (Reg. No. 41,458) at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and further replies, to charge payment or credit any overpayment to Deposit

Account No. 02-2448 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Respectfully submitted,

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By

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Enclosures: Version with Markings to Show Changes Made